UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

MEMORANDUM:

To: Maggie Rudick

From: Eric Bohnenblust, Ph.D., Entomologist

Secondary Review: Jennifer Saunders, Ph.D., Lead Biologist

Date: February 2, 2016

Subject: PRODUCT PERFORMANCE DATA EVALUATION RECORD (DER)

~~**THIS DER CONTAINS CONFIDENTIAL BUSINESS INFORMATION**~~

Note: MRIDs found to be **unacceptable** to support label claims should be removed from the data matrix.

DP barcode: 428838
Decision no.: 507758
Submission no: 970032
Action code: R314.2
Product Name: MGK Formula 31021
EPA Reg. No or File Symbol: 1021-ETOL
Formulation Type: RTU water-based formulation
Ingredients statement from the label with PC codes included:

Deltamethrin	0.02%	PC: 097805
Prallethrin	0.00625%	PC: 128722

Application rate(s) of product and each active ingredient (lbs. or gallons/1000 square feet or per acre as appropriate; and g/m^2 or mg/cm^2 or mg/kg body weight as appropriate): 1 gallon product per 1000 ft^2, 0.77 g deltamethrin/1000 ft^2, 0.24 g prallethrin/1000 ft^2
Use Patterns: Indoor residential use, Outdoor use is limited to crack and crevice treatments except for treatment to soil, vegetation around structures, lawns, turf, building foundations up to 3 feet

I. Action Requested: Review 29 MRIDs to support efficacy claims against cockroaches, ants, spiders, stable flies and other biting flies, mosquitoes, bed bugs, fleas, ticks, wasps, and yellow jackets and other arthropods.

II. Background: The registrant submitted 29 MRIDs to support efficacy claims against numerous public health pests for a new product containing deltamethrin and prallethrin.

III. MRID Summary:

A. Previously Reviewed MRIDs:

44874702. Comparison of Deltamethrin RTU, VIKOR RTU, InterCept, Empire 20, Ford's Dursban, Saga WP, Suspend SC, and DeltaDust in Efficacy Tests and Residual Activity in Carpenter Ant Control.

(1) non-GLP

(2) **Methods:** This study tested an unknown rate of 0.02% and 0.03% dilutions of deltamethrin applied to vinyl tile and concrete blocks for residual efficacy against carpenter ants. Tiles and blocks were aged and residual efficacy was evaluated at 1, 2, 4, 8, 12, and 16 weeks post application. There was no control treatment used in the study.

(3) **Results:** Both the 0.02% and 0.03% deltamethrin formulations killed 100% of carpenter ants on vinyl tile through 4 weeks post application. The 0.02% deltamethrin formulation killed 42% and 51% of carpenter ants on vinyl tiles at 8 and 16 weeks post application respectively. The 0.03% deltamethrin formulation killed 100% of carpenter ants through 16 weeks post treatment on vinyl tiles. On concrete tiles the 0.02% deltamethrin formulation never killed 90% of carpenter ants, while the 0.03% formulation killed 100% of carpenter ants through 4 weeks after treatment. After 4 weeks post treatment, neither treatment killed 90% of carpenter ants.

(4) **Conclusion: Unacceptable.** This study is unacceptable to support efficacy claims against carpenter ants because a control treatment was not included in the study, and because the rate of product application is unknown and cannot be compared to the label.

45069302. Residual Performance of DeltaGard HPC and Ortho Home Defense against Lone Star Ticks.

(1) non-GLP

(2) **Methods:** This study tested the residual efficacy of 0.01%, 0.02%, and 0.03% formulations of Deltamethrin, a 0.25% formulation of permethrin, chlorpyrifos (0.20% and 0.50%), Bifenthrin (0.05%), and a 0.075% formulation of Diazinon against German cockroaches and cat fleas. A control treatment was included in the study, but was otherwise not described. The products were applied at 1 g/9 cm diameter circle to the ceramic tile, unpainted plywood, and concrete tile to test against German cockroaches and a carpet surface to test efficacy against cat fleas. German cockroaches were exposed monthly to treated surfaces for either 1 minute or 30 minutes starting one day post application through 12 months post application. Cat fleas were placed in cups with treated fabric surfaces and exposed to surfaces for an unknown period of time. Mortality was recorded at 24 h post exposure for both cockroaches and fleas, and also at 4 days post exposure for cockroaches.

(3) **Results:** The 0.01%, 0.02%, and 0.03% deltamethrin treatments did not achieve 90% mortality through 6 months post application. However, at 9 months post application, mortality of fleas in the 0.01% deltamethrin treatment was 87% and in the 0.02% and 0.03% treatments flea mortality was 100%. At 12 months post application, mortality of fleas was again under 90% in the 0.01% and 0.02% deltamethrin treatments and was 92% in the 0.03% deltamethrin treatment. Mortality in the control treatment was 10% or less for both German cockroaches and fleas for all test dates except months 4-6 for fleas when mortality in the control treatment was 20%.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against fleas because efficacy was not over 90% except for a single occurrence at 9 months post application.

48935601. Evaluation of Knockdown and Kill Efficacy of UltraTec D200 Insecticide as a Direct Spray against Pharaoh ants (*Monomorium pharanois*) and Harvester Ants (*Pogonomyrmex* sp.).

(1) GLP with two minor deviations.

(2) **Methods:** This study tested a direct spray of a liquid aerosol product at an approximate rate of 12.42 g deltamethrin/1000 ft^2 (3 g test substance/pint mason jar) against pharaoh and harvester ants. Ants were assessed for knockdown at 3, 6, 10, 20, 30, and 60 seconds and 2, 3, 4, and 5 minutes post application. At five minutes ants were transferred to clean containers and assessed for knockdown at 10, 20, 30 and 60 minutes, 2, and 4 hours, and mortality at 24, 48, and 72 hours post treatment. Each treatment was replicated four times with 13-20 individuals of each species.

(3) **Results:** Knockdown of treated pharaoh ants was 100% at 6 seconds post application, and mortality was 100% at 24 hours after application. Knockdown of treated harvester ants reached 94% at four minutes post application and mortality was 100% at 24 h after application. No mortality occurred in the control treatment.

(4) **Conclusion: Partially Acceptable.** This study supports claims of kills pharaoh and harvester ants for a direct application at 3 g product. This study does not support claims of kill or knockdown against pharaoh ants or harvester ants for barrier treatments because the tested rate of 12.42 g deltamethrin/1000 ft^2 is higher than the proposed label rate of 0.77 g deltamethrin/1000 ft^2**.** In addition, for claims of knockdown against harvester ants, 90% knockdown did not occur within 30 seconds of exposure.

48935603. Residual Efficacy of UltraTec D200 Crawling Insect Killer on Non-porous (ceramic tile) and porous (unpainted wood) surfaces against German Cockroaches, *Blatella germanica*, and American Cockroaches, *Periplaneta americana*.

(1) GLP with several deviations that did not affect the outcome of the study.

(2) **Methods:** This study tested the residual efficacy against German and American cockroaches of an application of approximately 2.4 g deltamethrin/1000 ft^2 (3 g product/tile with a 0.02% deltamethrin product) on ceramic tile and unpainted wood surfaces. Treatments groups consisted of 10 individuals replicated four times. German cockroaches were exposed to treated ceramic tiles for 5 minutes at 1 day, 1, 2, 3, 6, 9, 12, and 18 months post application and treated unpainted wood surfaces at 1 day and 1 month post application. American cockroaches were exposed for 5 minutes to treated ceramic tiles at 1 day, 3, 6, 9, 12, and 18 months post application and treated unpainted wood surfaces at 1 day and 3 months post application. Cockroaches were transferred to clean containers after a 5-minute exposure period and observed for knockdown at 15, 30, and 60 minutes post exposure. Mortality observations were conducted at 1 and 3 days post exposure.

(3) **Results:** Mortality of German cockroaches was over 90% on treated ceramic tiles for all observation dates except for 2 months and 18 months post application when mortality at 3 days post exposure was 67.5% and 85% respectively. Mortality of German cockroaches on treated unpainted wood surfaces was never higher than 5%. Mortality of American cockroaches was over 90% on treated ceramic tiles for all exposure periods through 18 months post application. Mortality of German cockroaches on treated unpainted wood surfaces was never over 80%. Control mortality was less than 10% for both species on all observation dates.

(4) **Conclusion: Partially Acceptable**. For crack and crevice use patterns with directions of spray until wet, this study supports on non-porous surfaces, claims of kills German and American cockroaches and residual claims for up to 12 months against German cockroaches and 18 months against American cockroaches. This study does not support claims of knockdown against cockroaches, because 90% knockdown must occur within 30 seconds of exposure.
For barrier treatments at the proposed label rate, this study does not support claims of knockdown or kills cockroaches because the tested rate of 2.4 g deltamethrin/1000 ft^2 is higher than the proposed label rate of 0.77 g deltamethrin/1000 ft^2**.**

48935604. Residual Efficacy of UltraTec D200 Crawling Insect Killer on Non-porous (ceramic tile) and porous (unpainted wood) surfaces against Argentine Ants, *Linepithema humile*.

(1) **Methods:** This study tested the efficacy of a 0.02% deltamethrin product against argentine ants.

(2) **Conclusion: Extraneous**. The Agency does not require data to show efficacy against argentine ants, therefore, this study was not reviewed.

45430201. Laboratory Evaluations of Deltamethrin Formulations (WP, WDG, RTU, SC) Saga WP, Permanone Dust and Drione Dust against Adult, Free-Flying Yellow Jacket Wasps (Vespula Spp.).

(1) non-GLP

(2) **Methods:** This study tested three liquid formulations of deltamethrin diluted to 0.01% and applied to yellow jackets at a rate of 3 to 6 g diluted product per replicate, and one ready to use aerosol formulations of deltamethrin diluted to 0.01% applied to yellow jackets at a rate of 1 g diluted product per replicate. Yellow jackets were

contained and sprayed in steel cans of unknown size and each treatment was replicated 5 times with 10 individuals per replicate. Yellow jackets were assessed for knockdown at 15, 30 and 60 minutes post application, and mortality at 24 hours post application.

(3) **Results:** The Suspend SC 0.01% deltamethrin treatment killed 100% of yellow jackets at 24 hours post application; however, efficacy of the other two deltamethrin liquid formulations diluted to 0.01% was less than 50% at 24 hours post application. Mortality of yellow jackets treated with a 0.01% dilution of a deltamethrin ready to use aerosol product was 80% at 24 hours post treatment. There was no mortality in the control treatment.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against yellow jackets. Claims are not supported because efficacy of the ready to use formulation did not reach 90%, efficacy of the liquid formulations were less than 90% with one exception which indicates that formulation matters for efficacy, and without the size of the steel cans we cannot compare the tested rate with the proposed label rate.

45063601. Laboratory Evaluations of Deltamethrin Formulations (WP, WDG, RTU, SC) Saga WP, Permanone Dust and Drione Dust against Adult, Free-Flying Yellow Jacket Wasps (Vespula Spp.).

(1) This MRID is the same as MRID 45430201 and was therefore not reviewed.

(2) **Conclusion: Unacceptable.** Please see the conclusion for MRID 45430201.

49575709. Laboratory Bioassay to Determine the Efficacy of a Direct Spray Treatment against Eight Types of Household Pests.

(1) non-GLP

(2) **Methods:** This study tested the efficacy of a direct spray of F-31021 (registrant confirmed this is a 0.02% deltamethrin and 0.00625% Prallethrin product), a 0.05% Bifenthrin and 0.0125% zeta-cypermethrin combination product, and a control treatment against carpenter ants, American cockroaches, German cockroaches, house flies, black widow spiders, and brown dog ticks. Treatments were replicated four times with 10 individuals per replicate except for black widow spiders where 5 individuals were tested per replicate. One mL of the test product was applied directly to the arthropod subjects. Carpenter ants, American cockroaches, German cockroaches, black widow spiders, and brown dog ticks were sprayed in 5 gallon payliners (assumed diameter of the bottom was 12 inches) at a rate of 0.34 gallons product/ 1000 ft^2 while house flies were sprayed in 3.5 inch diameter containers at a rate of 3.4 gallons product/1000 ft^2. Arthropods were evaluated for knockdown and mortality at 30 seconds, every minute from 1 to 15 minutes, 30 minutes, and 24, 48, and 72 hours post application.

(3) **Results:** The KT_{90} was 3.1 minutes for carpenter ants, > 15 minutes for American cockroaches, brown dog ticks, and black widow spiders, 12.8 minutes for German cockroaches, and 1.6 minutes for house flies. At 72 hours post application of the deltamethrin and prallethrin combination product, mortality of carpenter ants was 17.5%, mortality of American cockroaches was 82.5%, mortality of German cockroaches was 85%, mortality of black widow spiders was 100%, and mortality of brown dog ticks was 100%. At 24 hours post application of the deltamethrin and prallethrin combination product, mortality of house flies was 100%. Mortality in the control treatment was 10% or less for all species tested.

(4) **Conclusion: Partially Acceptable.** For the proposed product, this study supports, claims of kills black widow spiders at a rate of 0.34 gallons of product/1000 ft^2. This study supports claims of kills house flies at a rate of spray until wet, for crack and crevice type direct applications only. This study supports knockdown within 2 minutes for a direct treatment against house flies. Claims against house flies are not supported for barrier/surface applications to horse stables because the rate (3.4 gallons product/1000 ft^2) tested against house flies is higher than the labeled rate of 1 gallon product/1000 ft^2. This study shows efficacy of the proposed product at the proposed label rate against brown dog ticks; however, for any tick claims additional data must show efficacy against lone star and deer ticks in addition to this study. For the proposed product, this study does not support claims against carpenter ants, and American or German cockroaches because mortality did not reach 90%. This study does not support knockdown type claims against carpenter ants, and American or German cockroaches because knockdown did not occur within

30 seconds of application and was not confirmed by mortality within 96 hours of treatment.

49575710. Efficacy Assessment of X-7408-14.

(1) non-GLP

(2) **Methods:** This study tested the efficacy of a direct spray of the proposed product, 0.02% deltamethrin and 0.00625% prallethrin, against two strains of German cockroaches at a rate of 4.5 g product per 10 cm diameter steel can (9.9 g deltamethrin/1000 ft^2 and 3.1 g prallethrin/1000 ft^2) and a control treatment. Treatments were replicated 6 times with 10 adult male cockroaches per replicate. Cockroaches were transferred to clean containers immediately after application and evaluated for knockdown through 15 minutes after treatment and mortality 24 hours post application.

(3) **Results:** The 0.02% deltamethrin and 0.00625% prallethrin combination product knocked down 90% of the Orlando strain cockroaches in 16 minutes, while it took 41 minutes to achieve 90% knockdown of the Cincinatti strain of cockroaches. Mortality of the Orlando strain and Cincinatti strains at 24 hours post treatment were 40% and 18.3% respectively.

(4) **Conclusion: Unacceptable.** This study does not support claims against German cockroaches because mortality at 24 hours post treatment was less than 90%, or knockdown claims because 90% knockdown must occur within 30 seconds of exposure and be confirmed by 90% mortality at 96 hours post treatment.

44858201. Laboratory Evaluations of DeltaGard and Esbiol/DeltaGard Water-Based Aerosols as Direct Sprays against Ten Arthropod Pest Species.

(1) non-GLP

(2) **Methods:** This study tested a 0.01% deltamethrin aerosol product, and a 0.02% deltamethrin and 0.05% Esbiol combination product as direct surface sprays against the following public health pests: southern fire ant, scorpions, and centipedes. The application rates ranged from 7.3 to 21.9 g per 5 replicates. Unknown numbers of test subjects were placed into 1 pint disposable plastic food storage containers with approximately 5 mm of sand in the bottom. Five replicates of each arthropod group were sprayed until thoroughly wet. Arthropods were scored for initial knockdown and mortality at 15, 30, 60 and 120 minutes and 24 hours. Moribund individuals were considered dead for counts.

(3) **Results:** Efficacy against southern fire ants and centipedes was over 90% at all timepoints from 15 minutes to 14 hours post application for both treatments. Efficacy against scorpions reached 100% at 60 minutes post application for the 0.01% deltamethrin product and 120 minutes post application for the deltamethrin and esbiol combination product.

(4) **Conclusion: Unacceptable.** This study does not support any efficacy claims because there is no untreated control, the rate is inconsistent and much higher than the proposed labeled rate for direct applications and barrier treatments, and moribund individuals were considered dead.

44858202. Evaluation of SBA/DTM TetraPerm and PyraPerm WBA against German Cockroaches and Cat Fleas.

(1) non-GLP

(2) **Methods:** This study tested water-based aerosol products containing 0.01% and 0.02% deltamethrin, in addition to several other products containing different active ingredients. There was no untreated control treatment. The products were applied directly to cockroaches and fleas at a rate of 1 g per replicate of unknown area. For both species, each treatment was replicated three times with 10 individuals per replicate.

(3) **Results:** Both deltamethrin treatments killed 100% of fleas and cockroaches at 24 hours post application. The

KT_{90s} for cockroaches were 12.2 and 14.5 minutes for the 0.01% and 0.02% products respectively. For fleas, the KT_{90s} were 3.7 and 4.1 minutes for the 0.01% and 0.02% products respectively.

(4) **Conclusion: Unacceptable.** This study is not acceptable because there is no control treatment and the rate cannot be effectively compared to the proposed label rate of 1 gal. product/1000ft^2.

44858203. Performance of Esbiol/Deltamethrin Water-Based Aerosol Series against Cat Fleas and German Cockroaches.

(1) non-GLP

(2) **Methods:** This study tested for knockdown and residual efficacy water-based aerosol products containing 0.01% and 0.02% deltamethrin, in addition to several other products containing different active ingredients. There was no untreated control treatment. To determine the efficacy of a direct spray against fleas, the products were applied directly to 5 cm diameter carpet pieces at a rate of 1 g per replicate (45.5 g product/ft^2). For efficacy of a direct spray against German cockroaches, the products were applied directly to a substrate of unknown size at a rate of 1 g per replicate. For both species, each treatment was replicated three times with 10 individuals per replicate. Knockdown of fleas was recorded at each minute until 90% knockdown and mortality was assessed at 24 h post exposure. Knockdown of cockroaches was recorded at 30 second intervals until 90% knockdown occurred and mortality was assessed at 24 h post exposure.

To test for residual efficacy against fleas, treated (1 g product/replicate) carpets were aged in the lab for 1, 2, and 3 months post treatment. Fleas were inoculated at 1, 2, and 3 months post application and then assessed for knockdown at 1 hour post exposure and mortality at 24 hours post exposure. To test residual efficacy against cockroaches, 1 g product/replicate was applied to vinyl and ceramic tiles of unknown size which were aged for evaluation at 1, 2, and 3 months post application. Cockroaches were exposed to treated ceramic tiles for 1 minute at 1 month post application, and 30 minutes at 2 and 3 months post application and on vinyl tiles at 1 and 2 months post application. Knockdown was measured as KT_{90} and mortality was assessed at 24 h post exposure.

(3) **Results:** In the direct spray treatments with deltamethrin, the KT_{90s} for fleas was between 2.6 and 3.8 minutes and between 7 and 13 minutes for cockroaches. Mortality of both species was 100% at 24 hours post exposure.

In the residual studies, deltamethrin killed less than 70% of fleas at 24 hours post exposure for all three months tested. Mortality of cockroaches at 24 hours post exposure to both deltamethrin treatments was over 90% during all three months. For observations at 15 minutes after exposure on the first month, knockdown of cockroaches was less than 20%, but knockdown at 30 minutes or 1 hour was over 90% for the both deltamethrin treatments except the 0.01% treatment at 3 months post application when knockdown was 87%.

(4) **Conclusion: Unacceptable.** This study is not acceptable because there was no control treatment, and the rate applied to ceramic and vinyl tile cannot be calculated because the size of the tiles was not reported.

44874704. Knockdown and Residual Activities of Deltamethrin 0.01% RTU and Esbiol/Deltamethrin WBA Against Red Imported Fire Ants, *Solenopsis invicta*, Pharaoh Ant, *Monomorium pharaonis*, Littler Black Ant, *Monomorium minimum*, False honey Ant, *Prenolepsis imparis*, and *Tetramorium bicarinatum*.

(1) non-GLP

(2) **Methods:** This study tested the efficacy of water as a control treatment, a 0.01% deltamethrin RTU product at 1.17 g product/replicate (1.74 g deltamethrin/1000 ft^2), and a esbiol/deltamethrin combination product with unknown percentages of the active ingredients at 0.53 g product/replicate against two ant species considered public health pests, fire ants and pharaoh ants. Each treatment was applied directly to three replicates of 20 individuals on vinyl tiles for each ant species. Ants were evaluated for knockdown and mortality at 5, 10, 15, and 30 minutes post application. The vinyl tiles were saved and used to evaluate residual efficacy of the treatments at one week and one month post treatment.

(3) **Results:** Within 20 minutes after initial direct treatment of fire ants and pharaoh ants, all ants were dead. In residual tests one week and 30 days after treatment, all ants were dead within 60 minutes of exposure.

(4) **Conclusion: Partially Acceptable.** This study supports kill claims against fire ants and pharaoh ants for direct spray crack and crevice type applications. This study does not support claims of residual efficacy for the proposed product because the application rate was higher than the label rate (0.77 g deltamethrin/1000 ft^2) for the proposed product.

44874705. Direct Spray Performance of Deltamethrin SC RTU Formulations Against German Cockroaches, Carpenter Ant, and Crickets.

(1) non-GLP

(2) **Methods:** This study assessed the efficacy of a direct application against German cockroaches and carpenter ants of seven different insecticide treatments including a 0.01% deltamethrin RTU product, a 0.02% deltamethrin RTU product, and an untreated control treatment. Each replicate was sprayed with 1 g of product/replicate of unknown size. Each treatment was replicated three times, with 10 individuals for German cockroaches and 5 individuals for carpenter ants. Immediately after treatment, cockroaches and ants were transferred to clean containers. Knockdown was assessed every 2 minutes for the first 15 minutes and then every five minutes thereafter until all individuals were knocked down. Mortality was assessed at 24 hours post treatment.

(3) **Results:** Mortality of German cockroaches and ants treated with 0.01% or 0.02% deltamethrin products was 100% at 24 hours post application. For the 0.01% deltamethrin products the KT_{90} for cockroaches was 26 minutes and for ants was 19 minutes. For the 0.02% deltamethrin products the KT_{90} for cockroaches was 35 minutes and for ants was 17 minutes. No control mortality was observed for either species.

(4) **Conclusion: Partially Acceptable.** This study supports claims of kills German cockroaches for a direct spray type of application. This study does not, by itself, support claims against carpenter ants because the number of individuals per replication was not adequate. In addition, this study does not support claims for surface applications because the application rate cannot be calculated and compared to the label rate for the proposed product. This study does not support knockdown claims, because data were not provided before 10 minutes post application.

44874706. Direct Spray Performance of Deltamethrin SC RTU Formulations against German Cockroaches, Carpenter Ant, and Crickets.

(1) **Conclusion: Extraneous Submission.** The study in the MRID is the same study as in MRID 44874705, therefore this MRID was not reviewed.

44874708. Residual Performance of Deltamethrin SC RTU vs. Commercial Products against House Flies.

(1) non-GLP

(2) **Methods:** This study assessed the residual efficacy against house flies of seven different insecticide treatments including a 0.01% deltamethrin RTU product, a 0.02% deltamethrin RTU product, and an untreated control treatment. One gram of product was applied to ceramic (121 cm^2) or concrete surfaces (153.9 cm^2). Application rates for the 0.01% deltamethrin product were 0.76 g deltamethrin/1000 ft^2 on ceramic tiles and 0.60 g deltamethrin/1000 ft^2 on concrete tile, and for the 0.02% deltamethrin product, 1.54 g deltamethrin/1000 ft^2 on ceramic tiles and 1.2 g deltamethrin/1000 ft^2 on concrete tiles. Concrete and ceramic tiles were aged for five months in the laboratory, and then an unknown number of house flies were held on the surfaces under a petri dish for one minute. After one minute, house flies were placed in a clean container and knockdown was recorded at 30 and 60 minutes post exposure and mortality was recorded at 24 hours post exposure.

(3) **Results:** Mortality of house flies exposed to ceramic tiles treated with the 0.01% deltamethrin product was 81% and on concrete tiles was 48%. Mortality of house flies exposed to ceramic tiles treated with the 0.02% deltamethrin product was 46% and on concrete tiles was 77%. Greater than 90% knockdown of house flies on both treated

surfaces was observed for the 0.01% and 0.02% deltamethrin products at 30 and 60 minutes, except on concrete tiles treated with the 0.01% deltamethrin product at 30 minutes past exposure when knockdown was 43%. No mortality was observed in the control treatment.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against house flies because mortality did not reach 90% for either the 0.01% or 0.02% products, and the number of house flies per replicate is unknown.

44878001. Evaluation of 0.05% Esbiol/0.02% Deltamethrin and 0.01% Deltamethrin Water-Based Aerosols Applied to Glass Plates Against Boxelder Bugs, *Leptocoris trivattatus*, Mosquitoes, *Aedes aegypti*, and Deer Ticks, *Ixodes scapularis*.

(1) non-GLP

(2) **Methods:** This study tested the efficacy against deer ticks and mosquitoes of a 0.01% deltamethrin water-based aerosol product and a 0.05% Esbiol/0.02% deltamethrin product applied to glass plates. There was no untreated control group. The 0.01% deltamethrin product was applied at 0.92 g deltamethrin/1000 ft^2 to two replicates for each species, 0.092 g deltamethrin/1000 ft^2 to two replicates for mosquitoes, and 0.23 g deltamethrin/1000 ft^2 to two replicates for deer ticks. After application, 10 nymphal deer ticks were placed directly onto each plate for 1 minute after which ticks were placed into clean containers and observed for mortality at 10 minutes and 24 hours post exposure. For mosquitoes, 17-20 unfed adult female *Aedes aegypti* mosquitoes were held on the treated glass plate for 2 minutes and then transferred to clean containers and observed for knockdown and mortality at 10 min., 30 min., 12 hours, and 24 hours post exposure.

(3) **Results:** All nymphal deer ticks exposed to deltamethrin treated plates were dead within 10 minutes of exposure. On plates treated with 0.092 g deltamethrin/1000 ft^2 mosquito mortality was 64.7% at 12 hours post exposure and was not recorded at 24 hours post exposure. On plates treated with 0.92 g deltamethrin/1000 ft^2, 90% knockdown of mosquitoes occurred at 10 minutes post exposure and 90% mortality was recorded at 12 hours post exposure.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against mosquitoes because there was no untreated control, replication was not adequate, and adult ticks were not tested.

44878502. Laboratory Performance of DeltaGard HPC as a Direct Spray against Oriental Cockroaches, Termites (*Reticulitermes flavipes*), Ants (*Crematogaster spp.*), Rice Weevils and Lesser Grain Borers.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin ready to use product was tested for efficacy of a direct application of 1 g product (0.0001 g deltamethrin/replicate of unknown size) against Oriental cockroaches and termites (*Reticulitermes flavipes*). There were five replicates for both species and each replicate consisted of 5 cockroaches or 10 termites. Immediately after application, insects were moved to clean containers and observed for knockdown at 15, 30, and 60 minutes after treatment. Mortality was assessed at 24 hours post treatment and 5 days post treatment. There was no untreated control in the experiment.

(3) **Results:** At 15 minutes post treatment 94% of termites were knocked down; however, for cockroaches > 90% knockdown did not occur until 60 minutes post treatment. At 24 hours post treatment mortality of cockroaches and termites was 100%.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against cockroaches or termites because there was no untreated control treatment; in addition the application rate cannot be compared to the proposed label rate of 0.77 g deltamethrin/1000 ft^2.

44974704. Performance of 0.01% DeltaGard Water-Based Aerosol Direct Sprays against American, Oriental cockroaches and stored product pests.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin ready to use product and an untreated control were tested for efficacy of a direct application of 1 g product (0.0001 g deltamethrin/replicate of unknown size) against American and Oriental cockroaches. There were five replicates for both species and each replicate consisted of 5 cockroaches. Immediately after application, insects were moved to clean containers and observed for knockdown at 15 and 30 minutes after treatment. Mortality was assessed at 24 hours post treatment.

(3) **Results:** At 30 minutes post application 100% knockdown of both cockroach species was observed. At 24 hours post application, combined moribund and dead individuals of both cockroach species was 100%. There was no mortality in the untreated control group.

(4) **Conclusion: Unacceptable**. This study does not support efficacy claims because moribund and dead individuals are combined in the mortality count. However, this study could be upgraded to support claims for a direct spray application if the registrant submits raw data which shows the breakdown of moribund and dead individuals with the number of dead cockroaches being ≥ 90% at 24 hours post treatment.

44974705. Evaluation of Esbiol/Deltamethrin and Deltamethrin CIKs against Lone Star Ticks.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin water-based aerosol product, a 0.05% S-bioallethrin/0.02% deltamethrin product, and an untreated control were tested for efficacy against adult lone star ticks using a direct application sprayed until wet. There were three replicates with 7 individual ticks for each treatment. Immediately after application, ticks were moved to clean containers and observed for knockdown at 15 and 30 minutes after treatment. Mortality was assessed at 24 hours post treatment.

(3) **Results:** All ticks in the boxes treated with the 0.01% deltamethrin product were dead within 20 minutes of treatment and over 90% of ticks were dead in boxes treated with the 0.05 S-bioallethrin/0.02% deltamethrin product. No mortality was observed in the control treatment.

(4) **Conclusion: Partially Acceptable.** This study shows efficacy against lone star ticks of a direct spray application applied until wet. However, data showing efficacy against deer ticks and dog ticks are also required to support any efficacy claims against ticks. This study does not support claims for a surface application because the tested rate is not comparable to the proposed label rate.

45069303. Evaluation of DeltaGard HPC Applied as Deposit to Glass Plates against Adult *Aedes aegypti* Mosquitoes.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin water-based aerosol product (application rate: 0.93 g deltamethrin/1000 ft), a positive control (EPA Reg. No. 4822-284), and an untreated control were tested for residual efficacy against adult *Aedes aegypti* mosquitoes. There were five replicates with 20 mosquitoes for each treatment. Within one hour of application, mosquitoes were exposed to treated glass plates for one minute and then transferred to clean containers and observed for knockdown and mortality at 5, 10, 30, and 60 minutes, and 24 hours after treatment.

(3) **Results:** Knockdown of mosquitoes was over 90% at 5 minutes post exposure in the 0.01% deltamethrin treatment and 10 minutes post exposure in the positive control treatment. Mortality of mosquitoes at 24 hours post exposure in both treatments was 100%, but mortality in the untreated control was 11.9% at 24 hours post treatment.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against mosquitoes because mortality of mosquitoes in the control treatment was over 10%, and the tested application rate is higher than the proposed label rate (0.77 g deltamethrin/1000 ft^2).

45069304. Evaluation of DeltaGard HPC Applied as Deposit to Glass Plates against Nymphal *Ixodes scapularis* Ticks.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin water-based aerosol product (application rate: 0.93 g deltamethrin/1000 ft), a 0.05% bifenthrin product, and an untreated control were tested for residual efficacy against nymphal *Ixodes scapularis* ticks. There were five replicates with 10 ticks for each treatment. Within one hour of application, ticks were exposed to treated glass plates for one minute and then transferred to clean containers and observed for knockdown and mortality at 15, 30, and 60 minutes, and 24 hours after treatment.

(3) **Results:** All ticks exposed to plates treated with deltamethrin or bifenthrin were knocked down at 15 minutes post exposure and dead at 24 hours post exposure. Mortality of ticks in the control treatment at 24 hours post exposure was 12.2%.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against ticks because mortality of ticks in the control treatment was over 10%, and the tested application rate is higher than the proposed label rate (0.77 g deltamethrin/1000 ft^2).

45104203. Performance of Suspend SC, DeltaGard WP, DeltaGard WDG, DS505 (DeltaGard/Esbiol Aerosol) and DeltaGard HPC as Direct Sprays against the Stable Fly, *Stomoxys calcitrans*.

(1) non-GLP

(2) **Methods:** This study tested three water-based 0.0025% deltamethrin products applied via a trigger sprayer at 2 gallons/1000 ft^2 (approx.: 0.023 g deltamethrin/1000 ft^2 assuming a density of 8 lb/gal), a 0.01% deltamethrin water-based aerosol product (application rate: 1.47 g deltamethrin/1000 ft), several positive controls, and an untreated control for efficacy of a direct application against stable flies. The experiment was performed five times with four replicates of 15 flies each time for a total of 300 flies per treatment. At one hour after application, flies were transferred to clean containers and observed for knockdown at 15 and 30 minutes post treatment, and mortality at 24 hours after treatment.

(3) **Results:** Knockdown was 100% at 15 minutes post application and mortality was also 100% at 24 hours post application in all deltamethrin treatments. Control mortality was less than 10%.

(4) **Conclusion: Acceptable.** This study supports claims of kills stable flies for direct application at the surface application rate (0.77 g deltamethrin/1000 ft^2) for the proposed product.

45137601. Direct Spray of American Cockroaches (*Periplaneta americana*) with 0.01% DeltaGard Home Pest Control (HPC) and 0.05% (Bifenthrin) Ortho's Home Defense Ready to Use (RTU).

(1) non-GLP

(2) **Methods:** This study tested the efficacy of a 0.01% deltamethrin RTU product (0.19 g deltamethrin/1000 ft^2), a 0.05% bifenthrin product (2.3 g bifenthrin/1000 ft^2), and an untreated control for efficacy of a direct application against American cockroaches. There were six replicates of five cockroaches each for the insecticide treatments and two replicates of ten cockroaches for the control treatment. Knockdown was observed for the first 15 minutes and at 30 and 60 minutes post application, and mortality was assessed at 24 hours post application.

(3) **Results:** The deltamethrin product knocked down 100% of cockroaches within 15 minutes of application, and both treatments killed 100% of cockroaches at 24 hours post application. There was no control mortality.

(4) **Conclusion: Acceptable.** This study supports claims of kills American cockroaches for the proposed product at the proposed label rate (0.77 g deltamethrin/1000 ft^2).

45137602. Performance of 0.05% Esbiol/0.02% Deltamethrin and Deltamethrin against House Flies, Carpenter Ants, and House Crickets.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin water-based aerosol product (1 g product/replicate), a 0.05% Esbiol/0.02% deltamethrin product, and an untreated control were tested for efficacy of a direct application against house flies and carpenter ants. The number of replicates for each species and treatment is not provided. Flies were retained in the treated cups for the duration of the study, while ants were moved to clean containers immediately after application. For house flies, knockdown was assessed every 30 seconds, and for carpenter ants knockdown was assessed every minute. For both species mortality was assessed at 24 hours post application.

(3) **Results:** For house flies, the KT_{90} for the deltamethrin treatment was 8.1 minutes and for carpenter ants the KT_{90} was 6.5 minutes. Mortality for both species in both insecticide treatments was 100% at 24 hours post application. No control mortality was observed for either species.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against house flies and carpenter ants because the number of replicates used in the study was not provided, and flies were retained in the cup for 24 hours which is too long.

45137603. 1991 Roussel Bio Corporation Treated Panel Research in Indiana for Controlling House Flies and Stable Flies.

(1) non-GLP

(2) **Methods:** In this study, a 0.01% deltamethrin product, a 0.03% deltamethrin product, and two tralomethrin products were tested for residual efficacy against house flies and stable flies at a rate of 1 gallon product/1000 ft^2. An untreated control group was included in the experiment. Treatments were applied to 12 x 12 inch plywood squares aged for two months. There were six replications of each treatment for each species. Each replicate consisted of 10 to 20 flies of a single species. Flies were exposed to treated panels for one hour. The study does not specify the timepoint after exposure when flies were observed for mortality. House flies were exposed to treated panels at 1, 2, 4, 8, 12, 16, and 20 weeks post application, and stable flies were exposed at 10, 13, and 18 weeks post application.

(3) **Results:** Both deltamethrin treatments killed 100% of both species of flies exposed to treated panels through 20 weeks post application for house flies and 18 weeks post application for stable flies. The 0.01% tralomethrin product did not provide 90% control until 8 weeks post application at which point mortality of both species was 100% through 20 weeks for house flies and 18 weeks for stable flies. The 0.03% tralomethrin product killed 100% of both fly species through the duration of the study. Control mortality was acceptable.

(4) **Conclusion: Unacceptable.** This study does not support efficacy claims against stable flies and house flies because we do not know at what time post treatment the study staff assessed flies for mortality.

48935602. Evaluation of the Insecticidal Activity (Efficacy) of UltraTec 5 SC MUP (Deltamethrin 4.75%) Applied as a Direct Application Against Chiggers, Harvest Ants, Horse Flies, Deer Flies, and Biting Gnats/Midges Under Laboratory Conditions.

(1) non-GLP

(2) **Methods:** This study tested the efficacy of a direct application of a 4.75% deltamethrin product diluted to 0.01% deltamethrin against harvester ants, biting midges, chiggers, horse flies and deer flies. The diluted product was applied at 2 g diluted product/replicate to harvester ants, 2 g diluted product/replicate to chiggers (2.27 g deltamethrin/1000 ft^2), 2.5 g diluted product/replicate to horse flies and deer flies, and 1 g diluted product/replicate to biting midges. Each treatment was replicated five times, and each replicate consisted of 10 individuals for ants, 3 – 18 individuals for deer and horse flies, 15 midges, or 10 chiggers. Insects were held in the following containers for

application: ants were sprayed in 8 oz. plastic cups; horse flies, deer flies, and biting midges were sprayed in squat 16 oz. plastic cups, and chiggers were sprayed in 100 x 15 mm petri dishes. At five minutes post application, all individuals of all species were transferred to clean containers and observed for knockdown at 5, 15, 30, 45, and 60 minutes and 2, and 4 hours post exposure and mortality at 24 hours post application.

(3) **Results:** Knockdown of all species except biting midges was over 90% within 5 minutes of application. Over 90% of biting midges were knocked down at 30 minutes post treatment. At 24 hours post application, 100% of all species were dead. Mortality of all species in the control treatment was less than 10%.

(4) **Conclusion: Partially Acceptable.** This study supports claims of kills harvester ants, biting midges, chiggers, horse flies, and deer flies for a direct application with directions of spray until wet. This study does not support efficacy claims against the tested pests for a surface application because the tested rates cannot be compared to the proposed label rate except the rate tested against chiggers (2.27 g deltamethrin/1000 ft^2) which is higher than the proposed rate (0.77 g deltamethrin/1000 ft^2).

47570901. *In Vitro* Efficacy Evaluations of UltraTec 5 SC MUP against selected Arthropod Pest Species.

(1) GLP with three exceptions.

(2) **Methods:** The tests in this study evaluated the efficacy of a deltamethrin product diluted to 0.01% and sprayed at a rate of 2-3 g diluted product/replicate and an untreated control group against black widow spiders, hobo spiders, brown recluse spiders, *Polistes* wasps, black flies, and the Earl strain of bed bugs. The three spider species and *Polistes* wasps were sprayed with 3 g diluted product/replicate and the bed bugs and black flies were sprayed with 2 g diluted product/replicate. There were five replicates for each species per treatment. Replicates consisted of one spider, 5 *Polistes* wasps, or 5 black flies. The number of bed bugs per replicate as not provided. All species were transferred to clean containers at 5 minutes post application and observed for knockdown and mortality at 1, 5, 15, 30, 45, and 60 minutes and 2, 4, and 8 and 24 hours post treatment.

(3) **Results:** For arthropods treated with 0.01% deltamethrin, 90% or greater knockdown occurred at one minute post treatment of black flies, 5 minutes post treatment of brown recluse and hobo spiders, 15 minutes post treatment of black widow spiders, and 30 minutes post treatment of *Polistes* wasps. At 24 hours post application, the 0.01% deltamethrin treatment killed 100% of all arthropods tested. Raw data were not provided to confirm mortality in the control treatment or replication of bed bugs. Mortality of black flies in the control treatment was 16.8% at 8 hours post treatment. Mortality of hobo spiders in the control treatment was 25% at 60 minutes post treatment. Mortality of the other tested arthropods was less than 10% throughout the experiment.

(4) **Conclusion: Supplemental.** This study shows efficacy of a direct application against black flies, brown recluse and black widow spiders, *Polistes* wasps, however, replication is not adequate to support efficacy claims against these pest species. This study does not show efficacy against bed bugs because the number of bed bugs tested is not given, and control data were not provided for bed bugs.

48302901. *In vitro* Efficacy Evaluations of UltraTec 5 SC MUP against Selected Arthropod Pest Species.

(1) GLP

(2) **Methods:** The tests in this study evaluated the efficacy of a deltamethrin product diluted to 0.01% and sprayed at a rate of 1-3 g diluted product/replicate and an untreated control group against black widow spiders, hobo spiders, brown recluse spiders, *Polistes* wasps, black flies, and the Earl strain of bed bugs. A 0.05% dilution of deltamethrin applied at 1-3 g diluted product per replicate was also tested only against the *Polistes* wasps. Exact application rates for individual species and replicates were not given. There were five replicates for each species per treatment except the spider species. Replicates consisted of five bed bugs, 10 *Polistes* wasps, or 20 black flies. The three spider species were placed in cups individually and there were 25 individuals per species per treatment. All species were transferred to clean containers at 5 minutes post application and observed for knockdown at 5, 15, 30, 45, and 60 minutes and 2, and 4 hours post treatment. Arthropods were evaluated for mortality at 24 and 48 hours post application for the control and 0.01% deltamethrin dilution and through 96 hours for the 0.05% deltamethrin

dilution.

(3) **Results:** In the 0.01% deltamethrin treatment, knockdown of *Polistes* wasps, black widow spiders, and black flies reached 90% at 30 minutes post application. Knockdown reached 90% for hobo spiders at 45 minutes post treatment, bed bugs at 1 hour after application, and brown recluse spiders at 2 hours post application. Mortality of bed bugs, black flies, and black widow spiders was over 90% at 24 hours post application. For brown recluse and hobo spiders mortality was over 90% at 48 hours post treatment. Mortality of *Polistes* wasps was only 8% at 48 hours in the 0.01% deltamethrin treatment, but the 0.05% deltamethrin treatment killed 95% of wasps at 96 hours post application. Mortality of all species in the control treatment was less than 10%.

(4) **Conclusion: Partially Acceptable.** This study supports claims of kills spiders, including black widow, brown recluse, and hobo spiders, and black flies for direct applications at a rate of spray until wet. These data show efficacy against a laboratory strain of bed bugs, but tests must show efficacy against field collected bed bugs and a resistant laboratory strain of bed bugs for any bed bug claims. This study does not show efficacy against wasps at the 0.01% dilution of deltamethrin. This study does not support knockdown claims because 90% knockdown did not occur until 30 minutes post application.

45069301. Performance of DeltaGard HPC and Ortho Home Defense against Lone Star Ticks.

(1) non-GLP

(2) **Methods:** This study tested the efficacy of a direct application of a 0.01% deltamethrin product, and a 0.05% bifenthrin product and an untreated control against lone star ticks. Ten lone star ticks were placed into 5 inch x 5 inch boxes, and five replications of ten ticks were sprayed per treatment. Products were applied directly to ticks at 1 g of product per replicate, equivalent to a rate of 0.57 g deltamethrin/1000 ft^2 for the tested deltamethrin product.

(3) **Results:** All ticks were dead in both insecticide treatments within three hours of application. Mortality in the control treatment was less than 10%.

(4) **Conclusion: Acceptable.** This study supports efficacy of the deltamethrin at the labeled rate for the proposed product against lone star ticks. However, for any efficacy claims against ticks, data must also be submitted to show efficacy against deer ticks and dog ticks.

IV. EXECUTIVE DATA SUMMARY:

(A) The submitted data support claims against the following insects

(1) For contact/direct spray applications (*e.g*., crack and crevice application directly to the arthropod): At an application rate of 1 g, claims of kills Spiders (excluding brown recluse and hobo spiders), black widow spiders, fire ants, pharaoh ants, biting midges, black flies; kills/ controls cockroaches for up to 12 months on non-porous surfaces, German cockroaches for up to 18 months on non-porous surfaces, American cockroaches for up to 12 months on non-porous surfaces.

At an application rate of 2 g, claims of kills harvester ants, black flies, chiggers, ants (excluding carpenter ants)

At an application rate of 2.5 g, claims of kills horse flies and deer flies are acceptable.

At an application rate of 3 g claims of kills spiders (including black widow, brown recluse and hobo spiders), house flies, and knockdown claims for house flies within 2 minutes of application are acceptable.

(2) For barrier/surface treatment applications at the label rate of 1 gallon product/1000 ft^2 claims of kills black widow spiders and American cockroaches when applied directly to the pest are acceptable.

(3) The submitted data show efficacy against lone star ticks and brown dog ticks for contact/direct spray

applications, and brown dog ticks and lone star ticks for surface treatment applications if applied directly to individual pests. For any claims against ticks for contact/direct spray applications, data showing efficacy against deer ticks must be submitted, and for barrier/surface treatment applications, data showing efficacy at the proposed label rate against deer and lone star ticks must be submitted.

(B) The submitted data do not support claims for the following arthropod pests:

(1) For contact/direct spray applications, claims against the following pests are not supported: yellow jackets, bed bugs, wasps, carpenter ants, mosquitoes, fleas, deer ticks, scorpions, centipedes, termites, gnats. Claims of knockdown are not supported for black widow spiders or German cockroaches.

(2) For barrier/surface treatment applications at the proposed label rate of 1 gallon product/1000 ft^2 claims against the following pests are not supported: yellow jackets, bed bugs, wasps, carpenter ants, mosquitoes, fleas, deer ticks, scorpions, centipedes, chiggers, pharaoh ants, fire ants, harvester ants, brown recluse spiders, hobo spiders, German cockroaches, black flies, horse flies, deer flies, termites, gnats, house flies, stable flies.

(3) The submitted data do not show efficacy against any mosquito species. For mosquito claims, data must be submitted showing efficacy against *Aedes*, *Culex*, and *Anopheles* spp.

(4) The following pests are not supported because data were not submitted: face flies, gnats, horn flies, hornets.

V. LABEL RECOMMENDATIONS:

(1) Please see the attached label for changes to the directions for use.

(2) The following marketing claims are acceptable: Please see the attached label for comments on marketing claims.

(3) The following marketing claims are unacceptable: Please see the attached label for comments on marketing claims.

(4) The following MRIDs should be removed from the data matrix, as they are classified as "unacceptable" to support the product: 44874702, 45069302, 48935604, 45430201, 49575710, 44858201, 44858202, 44858203, 44874706, 44874708, 44878001, 44878502, 44974704, 45069303, 45069304, 45137602, 45137603, 45063601

MGK 31021

ACTIVE INGREDIENT:	
Deltamethrin	0.02%
Prallethrin.....	0.00625%
OTHER INGREDIENTS:	99.97375%
	100.00%

KEEP OUT OF REACH OF CHILDREN

FIRST AID
HOT LINE NUMBER
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this product (including health concerns, medical emergencies or pesticide incidents), you may call 1-888-740-8712.

Manufactured by:

8810 Tenth Avenue North
Minneapolis, MN 55427

EPA Reg. No. 1021-XXXX EPA Est. No. 1021-MN-2

Net Contents: x fl. Ounces

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION
Contact with product may result in transient tingling and reddening of the skin. Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

ENVIRONMENTAL HAZARDS
This product is extremely toxic to fish and aquatic invertebrates. To protect the environment, do not allow pesticide to enter or runoff into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

PHYSICAL OR CHEMICAL HAZARDS
Do not apply this product in or on electrical equipment due to possibility of shock hazard.

SHAKE WELL BEFORE EACH USE

FOR INDOOR/OUTDOOR USE [ONLY]

<table>
<tr><th colspan="3">DIRECTIONS FOR USE</th></tr>
<tr><td colspan="3">It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.
READ ENTIRE LABEL BEFORE USE
USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.</td></tr>
<tr><td>Kills/ Insects Controlled</td><td colspan="2">Ants [including Argentine, ~~Carpenter~~, Fire, Harvester & Pharaoh], Asian Lady Bird Beetles (Lady bugs), ~~Bed Bugs~~, Biting Midges, Black Flies, Box Elder Bugs, Carpet Beetles (Black, Furniture and Varied), ~~Centipedes,~~ Chiggers, Chocolate Moths, Cigarette Beetles, Clover Mites, Cluster Flies, Cockroaches [American and German Cockroaches] ~~(including Adult and Immature Stages of Both Non-Resistant and Organophosphate and Carbamate Resistant Strains)~~, Crickets, Deer Flies, Dermestids, Drugstore Beetles, Elmleaf Beetles, ~~Face Flies~~, Firebrats, ~~Fleas~~, Flour Beetles (Red and Confused), ~~Gnats~~, Grain Beetles (Rusty, Merchant and Saw-Toothed), Ground Beetles, ~~Horn Flies~~, Horse Flies, Houseflies, Lesser Grain Borers, M~~osquitoes~~, Palmetto Bugs, Pillbugs, Rice Weevils, ~~Scorpions~~, Silverfish, Small Flying Moths, Spider Beetles, Spiders (including brown recluse, black widow & hobo spiders), Sowbugs, Stable Flies, ~~Ticks(including Ticks that may transmit Lyme disease~~), Tobacco Moths, ~~Wasps~~, Waterbugs and Webbing Clothes Moths</td></tr>
<tr><td rowspan="2">Where to Use/Apply</td><td colspan="2">For Use in Residential Homes [and Buildings] such as [but not limited to]:

Apartments/Automobiles/Boats/Cabins/Campers/Condos/Dog Houses/Duplexes/Garages/Gazebos/Homes/Household/Storage Areas/Sheds/Townhomes</td></tr>
<tr><td colspan="2">All outdoor application must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:
1. Treatment to soil or vegetation around structures;
2. Applications to lawns, turf, and other vegetation;
3. Applications to building foundations, up to a maximum height of 3 feet.
Other than applications to building foundations, all outdoor applications to impervious surfaces such as sidewalks, driveways, patios, porches and structural surfaces (such as windows, doors and eaves) are limited to spot and crack-and crevice applications, only.</td></tr>
<tr><td rowspan="4">Before You Use/Apply:
Read Instructions Before Using</td><td colspan="2">USE RESTRICTIONS</td></tr>
<tr><td colspan="2">• Do not spray product directly on pets.</td></tr>
<tr><td colspan="2">Do not contaminate fish ponds or apply directly to water. Do not water the treated area to the point of runoff. Do not make applications during rain.</td></tr>
<tr><td colspan="2">Application is prohibited directly into sewers drains, or to any area like a gutter where drainage to sewers, storm drains, water bodies, or aquatic habitat can occur. Do not allow the product to enter any drain during or after application.</td></tr>
<tr><td>How to Use/Apply</td><td colspan="2">SEE APPLICATOR OPTIONS 1 THRU 7 BELOW</td></tr>
<tr><td rowspan="2">When to Use/Apply</td><td>Contact Spray</td><td>Spray where insects congregate and individual pests when seen. Spray 1-3 pumps [1-3 second spray] contacting insects directly. Use one pump [1 second spray] (1g)Marketer must insert directions that apply 1g of product to pest for ants and other small insects. Use three pumps [3 second spray](4.5g) Marketer must insert directions that apply 4.5g of product to pest for cockroaches, asian lady beetles, stink bugs and other large insects. Insects contacted by spray will be killed. Contact kill gives you immediate results when spraying insects directly.</td></tr>
<tr><td>Barrier Spray</td><td>Use when you see insects in home and when seasonal invading insects are likely to enter home. Use at rate of 1 gallon per 1,000 square feet.</td></tr>
</table>

How To Use/Apply Indoors	[To Kill] Cockroaches [American and German Cockroaches] ~~(including Adult and Immature Stages of Both Non-Resistant and Organophosphate and Carbamate Resistant Strains),~~ Ants [including Argentine, Carpenter, Fire, Harvester & Pharaoh], Box Elder Bugs, ~~Centipedes~~, Crickets, Dermestids, Firebrats, ~~Fleas~~, Palmetto Bugs, Silverfish, Sowbugs, ~~Ticks~~ and Waterbugs	Apply as a spot and crack & crevice treatment ~~to~~ areas where these pests crawl and hide, especially in hidden areas around sinks and storage areas, behind baseboards, around doors and windows, behind and under refrigerators, cabinets, sinks and stoves, the underside of shelves, drawers, bookcases, and similar areas. Cover all food handling surfaces and cover or remove all food and cooking utensils or wash thoroughly after treatment. Exposed food should be covered or removed. Repeat as necessary but not more than once per week.
	[To Kill] Ants	Spray ant trails and around doors and windows and other places where ants enter the house.
	~~Carpenter Ants~~	~~For effective control, locate and treat nests and surrounding areas. Apply around doors and windows and other places where ants enter premises and where they crawl and hide. Spray into infested wood through existing openings.~~
	~~[To Kill] Ticks including Ticks that may transmit Lyme disease) and Fleas~~	~~Remove pet bedding and destroy or clean thoroughly. Spray pet resting quarters until moist. Adult Fleas and Larvae contacted by spray will be killed. Put fresh bedding down once spray has dried. Do not spray animals directly. For best results, pets should be treated with an appropriate flea and/or tick control product registered for use on pets before allowing them to return to the treated area. Spray rugs and carpets where infestations are bad. Delicate fabrics should be tested for staining in an inconspicuous area prior to use.~~
	[To Kill] Spiders	Apply along and behind baseboards, to window and door frames, corners, pipes, storage localities, attics, crawl spaces and other areas over which these pests may crawl.
	~~Centipedes~~, Ground Beetles, Pillbugs, Sowbugs, ~~Scorpions and Ticks~~	Apply around doors and windows and other places where these pests may enter premises. For Ticks, spray surfaces until moist. Treat baseboards, storage areas and other locations where these pests are found.
	Silverfish, Crickets, ~~Spiders~~	Apply to areas infested by these pests
	Asian Lady Bird Beetles (Lady bugs)	Spray areas where bugs crawl or rest, around doors, windows and areas where insects can enter the home
	FLYING INSECTS: Houseflies, ~~Gnats, Mosquitoes~~ and Small Flying Moths	Spray localized resting areas, such as under eaves, porches, inside surfaces of window and door frames, surfaces around light fixtures and cords, railings, etc. and anywhere these insects may rest. ~~Insects coming to rest on treated surfaces will be killed.~~
	HORSE STABLES: To Control ~~Stable Flies, Horn Flies~~, Houseflies, ~~Face Flies~~, Horse Flies, Deer Flies, ~~Mosquitoes and Gnats~~	Apply thoroughly to surfaces until wet. ~~Insects coming to rest on treated surfaces will be killed or repelled.~~ Repeat treatment as necessary but not more than once per week. Do not spray animals or humans, or apply to animal feed or watering equipment. Controls Stable Flies for up to 4 months.
	PANTRY PESTS - Grain Beetles (Rusty, Merchant and Saw-Toothed), Flour Beetles (Red and Confused), Chocolate Moths, Cigarette Beetles, Clover Mites, Cluster Flies, Drugstore Beetles, Elmleaf Beetles, Rice Weevils, Lesser Grain Borers, Spider Beetles and Tobacco Moths	Treat exposed stages. Remove all food-stuffs, utensils and shelf paper from area to be treated. Discard used shelf paper and any infested foodstuffs. Apply spray to shelves and in cracks and crevices behind and under cupboards and cabinets. Allow to dry prior to replacement of shelf paper, food and utensils. Wash any exposed food handling surfaces and utensils before use.
	Carpet Beetles (Black, Furniture and Varied)	Spray on and under edges of floor coverings, under rugs and furniture and in closets or other localities where these insects are found.
	Webbing Clothes Moths	Use this product as a crack and crevice treatment in closets and other storage areas where these pests are found. This is an adjunct treatment and will not control moth larvae already on clothes. Do not apply to clothing.
	~~Bed Bugs~~	~~Remove linens and wash before reuse. Lightly spray mattresses, especially tufts, folds and edges. Apply to the interior of the frame. Allow to dry before remaking bed.~~
	HOUSE PLANTS: To control Aphids, Japanese Beetles, Lace Bugs, Leafminers, Mealy Bugs, Mites and Spider Mites	Prior to spraying, remove plants from living and eating areas. Put in an area not likely to come in contact with pets, children or food. Plants can be returned to original location when leaves dry. If plants cannot be moved, cover or remove exposed food and food handling surfaces. Avoid spraying surrounding areas. Apply spray to upper and lower surfaces of foliage. Avoid wetting blossoms if possible. Repeat applications as necessary but not more than once per week.

How To Use/Apply Outdoors	ON OUTSIDE SURFACES OF BUILDINGS: ~~Ants~~, Clover Mites, Crickets and Sowbugs (Pillbugs	Spray foundation of building where insects are active and may find entrance up to a height of 2 to 3 feet. Apply to outside surfaces of buildings where insects tend to congregate. Spray areas include (but are not limited to) screens, window frames, eaves, porches, patios, garages and refuse dumps. Repeat treatment as necessary but not more than once per week.
	[To Kill] CRAWLING INSECTS: Ants, Cockroaches (including American, German and Asian Cockroaches), ~~Centipedes~~, Crickets, Mole Crickets, Waterbugs and Silverfish	Hold can 12 to 18 inches from surface to be treated and spray in infested surface of patio or picnic area, hitting as many insects as possible. Spray to slightly moisten the surface. Also spray legs of tables and chairs.
	[To Kill] Ants	Spray freely around ant trails and hills. Spray around nests hidden under steps, brickwork, concrete, etc. Break apart accessible nests and spray freely on and around debris. Repeat as necessary but not more than once per week. [Spray ant trails and hills. If nest can be located, spray surface of nest until wet.]
	~~[To Kill] Ticks~~	~~Apply thoroughly to infestation in bushes, grass or weeds~~
	[To Kill] Spiders	Spray directly on insect. Spray areas where bugs crawl or rest, especially around doors, on and around windows, doorframes, in corners and under eaves.
	Asian Lady Bird Beetles (Lady bugs)	Spray areas where bugs crawl or rest, especially around doors, on and around screens, windows, doorframes and areas where insects can enter the home. Remove screens prior to spraying them, allow to dry and then reinstall them.
	~~Lone Star Ticks, Dog Ticks~~, Crickets and ~~Fleas~~	Apply thoroughly to infestation in bushes, grass or weeds. Spray directly on pet bedding and as a spot treatment on and around pet sleeping areas as well as cracks, crevices and other areas where fleas are present. Do not spray directly on pets.
	~~Wasps, Hornets, Yellow Jackets~~	~~Spray nests and other surfaces where bees may rest. Aim spray at nest openings. Applications should be made late in the evening when insects are at rest.~~
	FLYING INSECTS: Houseflies, ~~Gnats~~, ~~Mosquitoes~~ and Small Flying Moths	Spray outside surfaces of window and door frames and other areas where these pests may enter the home. Also spray localized resting areas, such as under eaves, porches, surfaces around light fixtures and cords, railings, etc. where these insects may rest. Insects coming to rest on treated surfaces will be killed.
	~~Termites, Carpenter Ants~~ and Carpenter Bees	(For localized control only) Apply to voids or channels in damaged wood of a structure, or to cracks, crevices and spaces in and between wooden portions of a structure or between wood and the foundation, in locations vulnerable to attack such as crawl spaces.
	~~Termites~~	~~The purpose of such applications is to kill workers or winged forms which may be present in the treated areas at the time of application. Not recommended as sole protection against termites. For active infestations, get a professional inspection. Such applications are not a substitute for mechanical alteration, soil treatment or foundation treatment but are merely a supplement. For severe termite infestation, contact a professional pest control operator in your area.~~
	FOR CONTROL OF ORNAMENTAL GARDEN INSECTS For use on roses, dahlias, asters and other ornamentals to kill Japanese Beetles hit by spray, as well as Whiteflies, Aphids, Armyworms, Lace Bugs, Mealy Bugs, Exposed Thrips, Pavement Ants, Spiders, Spider and Red Mites, Clover Mites and Leafminers.	Not for use on plants grown for sale or other commercial use. May be used on plants, as well as a multi-purpose spray in small ornamental gardens and for spot treatments to prevent insects from spreading into large garden areas. May also be used on other plants such as African violets, asters, azaleas, begonias, camellias, carnations, chrysanthemums, delphiniums, dogwood, English ivy, euonymus, fuchsia, geraniums, crassula, grape vine, Kentia palm, laurel, marigolds, rhododendrons, rubber plants, snapdragons, stocks, wandering Jews and zinnias. When spraying plants, do not operate closer than 18 inches. Use sweeping motion. Be cautious about wetting tender foliage, young plants and new growth. Do not spray plants when temperatures exceed 90°F. DO NOT apply to vegetable plants or other plants used for food. Spray insects directly whenever possible.

MGK 3102 [PRODUCT NAME] is an easy, ready- to-use water-based formula for application with hand-held trigger-spray bottle or wand applicator.

~~**MGK 3102 [PRODUCT NAME]** is the next generation insecticide which effectively kills Bed Bugs in residential buildings and structures. **MGK 3102**'s [Product name] patent pending technology provides residual control for up to four weeks after application and is scientifically formulated to target [pyrethroid, wild / field] **resistant** as well as susceptible **Bed Bug strains. MGK 3102 [PRODUCT NAME]** also kills **Bed Bug Nymphs and Eggs** by contact.~~

Directions For Use Options Based On Applicator

Option 1 – for Non specific spray container

[HOW TO APPLY/USE: *[icon]*

- Hold with applicator aimed away from you.
- Spray surfaces from a distance of 8 to 10 inches
- Apply at rate of 1 gallon per 1,000 square feet]

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
PESTICIDE STORAGE: Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.
PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

End of Option 1

Option 2 – for Trigger Sprayer [Applicator Name]

[[Applicator Name] [Applicator/Sprayer] Directions]

[HOW TO APPLY/USE: *[icon]*

- Turn sprayer nozzle to open.
- Adjust sprayer nozzle as desired. [Set sprayer to a coarse spray.]
- Hold 8 to 10 inches from the surface to be sprayed.
- Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)]

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
PESTICIDE STORAGE: [Small] [Applicator Name] Rotate nozzle to closed position,-OR- Turn sprayer nozzle to "OFF [X]. Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.
PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

PESTICIDE STORAGE: [Large] [Applicator Name] Place trigger sprayer under handle on container to keep sprayer above the level of contents. Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.
PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

End of Option 2

Option 3 [Quick Connect Trigger] [Applicator Name]

[[Applicator Name] [Applicator/Sprayer] Directions]

[Quick Connect Sprayer] [1. Pull sprayer from bottle. 2. Pull [color] hose connector and coil from sprayer handle. 3. Insert hose connector into [color] spout on cap [until it clicks] into place.] [4.] [Flip up spout.] Turn sprayer nozzle to open, and [pull trigger to] spray.

or

[Quick Connect Sprayer] [1. Remove sprayer. Pull cord ALL THE WAY OUT. 2. Insert [color] plug into spout [on cap] [until it clicks].] [3.] [Flip up spout.] Open nozzle at end of sprayer [and pull trigger to spray].

Note to PM: Illustrations may be associated with each step.

[HOW TO APPLY/USE: *[icon]*

- Turn sprayer nozzle to open.
- Adjust sprayer nozzle as desired. [Set sprayer to a coarse spray.]
- Hold 8 to 10 inches from the surface to be sprayed.
- Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)]

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
PESTICIDE STORAGE: [Applicator Name] Flip down spout to close. No need to disconnect trigger sprayer. Close nozzle on trigger sprayer [Turn sprayer nozzle to "OFF"[X]. Snap sprayer back in place. Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.
PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Non-refillable container. Do not reuse or refill this container.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

End of Option 3

Option 4 – Pull 'N Spray II

[[Applicator Name] [Applicator/Sprayer] Directions]

[Illustration #1]
- [Remove sprayer from side carrier and unwrap hose completely.]
- [Insert [color of plug] plug at end of hose into [color of spout] spout on cap [until it clicks.]
- [Flip up spout]. Spout must remain up while spraying.]]

[Illustration #2]
- Twist nozzle at end of sprayer to desired spray pattern.

[Illustration #3]
- Point sprayer away from body.
- Grasp sprayer by the handle.
- Slowly pull ring at bottom of sprayer handle until it stops and hold for two (2) seconds to ready the sprayer.

[Illustration #4]
- Press and hold button on sprayer to begin spraying.
- Pull ring at sprayer bottom again as needed to continue spraying.

[HOW TO APPLY/USE: *[icon]*
- Follow illustrations and instructions above.
- Twist nozzle at end of sprayer to desired spray pattern.
- Point sprayer away from body and press sprayer button to begin spraying.
- Pull ring at sprayer bottom again as needed to continue spraying.
- Hold 8 to 10 inches from the surface to be sprayed.
- Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)]

Optional Refill [and Reuse] Directions

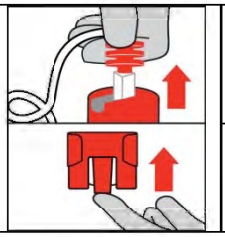
[The Pull 'N Spray II/Applicator Name [applicator/wand] may be reused with the available MGK® 31021/Product Name refill bottle/container. Read and follow instructions in Reuse Directions to reuse the applicator.] --OR--

[REFILL: This container may be refilled with MGK® 31021 / product name. To refill pour MGK® 31021 / product name into container.]

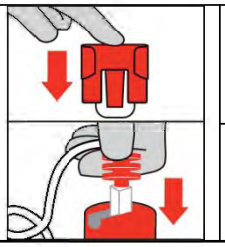
Refill [and Reuse] Directions

How to attach the [Pull 'N Spray II/Applicator Name] [applicator/wand] to MGK® 31021 / product name [refill bottle]:

Removing [Pull 'N Spray II/Applicator Name] [applicator] from original bottle:

	Remove the [applicator name] [applicator] by pulling the [color of plug] [red] plug from the [color of spout] [red] spout on cap. [Illustration]
	[At the bottom of the side [clip] [carrier] [holder] press the middle tab up and slide the [clip] [carrier] [holder] upwards to remove it from the bottle.] [Illustration]

Adding [Pull 'N Spray II/Applicator Name] [applicator] to MGK® 31021 /Product Name:

	[Slide the side [clip] [carrier] [holder] downward on the knob located [at right-hand] [on the] side of the refill container.] [Illustration]
	Insert [color of plug] [red] plug at end of hose into [color of spout] [red] spout on cap [until it clicks]. [Illustration]

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.

PESTICIDE STORAGE: [Pull 'N Spray II/Applicator Name] [Applicator]: Completely discharge/dispense product in sprayer prior to storage. Flip down [color of spout] spout on cap. DO NOT DISCONNECT SPRAYER HOSE FROM CAP. Place sprayer back inside carrier on bottle with the nozzle facing down. Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.

PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Pull 'N Spray II/Applicator Name can be reused with MGK® 31021/Product Name refill bottle/container. Follow instructions in the Reuse Directions when reusing [applicator name]. Non-refillable container. Do not reuse or refill this container.

If empty: Place in trash or offer for recycling if available.

If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

End of Option 4

Option 5 – Comfort Wand [Applicator Name]

[[Applicator Name] [Applicator/Wand] Directions]

[**[1. Remove]** Remove [applicator name] Wand from side [holder/clip] [Illustration #1&2]
- [Unwrap hose completely]
- [Remove protective strip from battery compartment to activate batteries]

[**[2. Connect]** Insert [color of plug] plug at end of hose into [color of spout] spout on cap [until it clicks. Flip up spout.] [Spout must remain up while spraying] [Illustration #3]]

[3. Extend] Flip open [applicator name] wand until it locks into position [Illustration #4]

[4. Spray] Twist nozzle at end of [applicator name] wand to desired spray pattern. [Ensure trigger lock is disengaged before spraying.]Hold [color of trigger] trigger for continuous spray. [Illustration #5]

[HOW TO APPLY/USE: [icon]
- Follow illustrations and instructions above.
- Twist nozzle at end of [applicator name] wand to desired spray pattern.
- Point [applicator name] wand away from body and Hold [color of trigger] trigger for continuous spray.
- Release trigger to stop spray.
- Hold 8 to 10 inches from the surface to be sprayed.
- Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)]

[After Use: twist nozzle to OFF position. [Engage trigger lock.] Flip the [applicator name] wand closed and store on the side [holder/clip].]

Important Use Information: Do not submerge in water. When storing sprayer for long periods, remove batteries.

To replace batteries: Open battery compartment at bottom of [applicator name] wand. Remove used batteries and replace with four new AA batteries in correct position as marked per diagram inside battery compartment. Securely close battery compartment door. Always use a complete set of the same type when replacing batteries. Never mix alkaline, carbon-zinc or rechargeable batteries.

Optional Refill [and Reuse] Directions

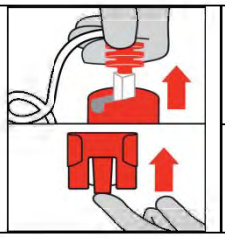
[The Comfort Wand/Applicator Name [applicator/wand] may be reused with MGK® 31021/Product Name refill bottle/container. Read and follow instructions in Reuse Directions to reuse the applicator.] --OR--

[REFILL: This container may be refilled with MGK® 31021 / product name. To refill pour MGK® 31021 / product name into container.]

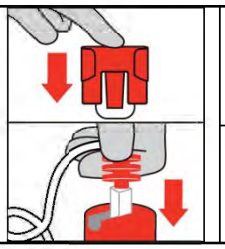
Refill [and Reuse] Directions

How to attach the [Comfort Wand/Applicator Name] [applicator/wand] to MGK® 31021 /Product name [refill bottle]:

Removing [Comfort Wand/Applicator Name] [applicator] from original bottle:

	Remove the [applicator name] [applicator] by pulling the [color of plug] [red] plug from the [color of spout] [red] spout on cap. [Illustration]
	[At the bottom of the side [clip] [carrier] [holder] press the middle tab up and slide the [clip] [carrier] [holder] upwards to remove it from the bottle.] [Illustration]

Adding [Comfort Wand/Applicator Name] [applicator] to MGK® 31021 /Product Name:

	[Slide the side [clip] [carrier] [holder] downward on the knob located [at right-hand] [on the] side of the refill container.] [Illustration]
	Insert [color of plug] [red] plug at end of hose into [color of spout] [red] spout on cap [until it clicks]. [Illustration]

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
PESTICIDE STORAGE: [Applicator Name] [Applicator]: Flip down (color of spout) spout on cap. NO NEED TO DISCONNECT SPRAYER HOSE FROM CAP. Completely discharge/dispense product in sprayer prior to storage. Twist sprayer nozzle to the OFF position. [Engage trigger lock.]. Flip the [applicator name] wand closed and place [sprayer] back inside carrier [clip] [holder]. Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.

PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Comfort Wand /Applicator Name can be reused with MGK® 31021 /Product Name refill bottle/container. Follow instructions in Reuse Directions when reusing [applicator name]. Non-refillable container. Do not reuse or refill this container.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instruction. Never place unused product down any indoor or outdoor drain.

End of Option 5

Option 6 – EZ Sprayer [Pump 'n Go] [Applicator Name]
[[Applicator Name] [Applicator] Directions]

CUT *[Illustration # 1]*
1. Carefully cut the two [enter color] [white] zip ties securing the hose and pump handle with scissors. Use caution not to cut the [enter color] [white] hose.

CONNECT *[Illustration #2]*
2. Unwind hose. Firmly push the connector at the end of the hose onto the spout on the pump, until it locks into place.

EXTEND WAND *[Illustration #3]*
3. Lift sprayer wand off bottle. Push [enter color] [yellow] button while pulling out on the wand nozzle tip. Fully extend wand until [enter color] [yellow] button snaps into SPRAY position. NOTE: [White] [color of] trigger will not function until wand is fully extended and [enter color] yellow button is visible in the spray position.

PUMP *[Illustration # 4]*
4. [Make sure handle is screwed on TIGHTLY or the bottle will not pressurize.] Pump container 10-20 [X-X] times to pressurize bottle. A full bottle requires fewer pumps than an empty bottle. Pumping to the higher range will provide longer spray duration. After pumping, push pump down and turn handle clockwise to lock into carrying position. NOTE: This bottle is designed to expand under pressure and cannot be over-pressurized.

SPRAY *[Illustration # 5]*
5. Aim wand. Spray by pushing down [enter color] [white] trigger with thumb. Adjust spray pattern by rotating [enter color] [white] nozzle tip up to one-half rotation. Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)

STORE *[Illustration # 6]*
6. When finished spraying, push the [enter color] [yellow] button and push the wand until the [enter color] [yellow] button snaps back into the original storage position. Place wand back onto the bottle with nozzle facing down.

DEPRESSURIZE *[Illustration # 7]*
7. Push pump handle all the way down and turn pump handle and cap counter-clockwise to relieve pressure, then retighten prior to storing.

Option 7 – Other Pump Style [Quick Pump] [Applicator Name]

[[Applicator Name] [Applicator] Directions]

[1.] TO USE
Remove wand from holster and pull the hose from the storage compartment. Turn the pump handle clockwise to make sure the pump is tight [and push the pop-up pressure indicator completely down] before pumping. [illustration #1]

[2.] TO PUMP
Turn the pump handle clockwise [one-quarter turn] to release the handle. Pump the sprayer [until the pressure indicator pops up about an inch]. [That's your signal you are ready to spray.] Turn the pump handle counterclockwise [one-quarter turn] to secure the handle for carrying. [illustration #2]

[3.] TO SPRAY
Begin spraying by pushing the lever on the spray handle down. Rotate the nozzle at the tip of the wand to adjust spray from a stream to gentle mist. For continuous spraying, push the lever down and slide forward to lock. Pull back to release. Hold 8 to 10 inches from the surface to be sprayed. Spray surface until slightly damp. [illustration #3]

[4.] TO STORE
Slowly turn the pump handle counterclockwise to untighten and release pressure, then turn back clockwise to retighten the handle. Push the hose back into the storage compartment and put the wand back in holster. [illustration #4]

[HOW TO APPLY/USE: [icon]
- Follow illustrations and instructions above.
- Point [applicator name] away from body Release trigger to stop spray.
- Hold 8 to 10 inches from the surface to be sprayed.
- Apply at rate of 1 gallon per 1,000 square feet (Spray until slightly damp)]

Optional Refill [and Reuse] Directions

[This product is also available for sale in a refill bottle/container. Read and follow instructions in the Refill Directions to refill the original container with the Quick Pump/Applicator Name [applicator]. Do not refill this bottle/container with any other product. Wear protective clothing as directed in Precautionary Statements when refilling this bottle/container.] --OR--

[REFILL: This container may be refilled with MGK® 31021 / product name. To refill pour MGK® 31021 / product name into container.]

Refill [and Reuse] Directions

How to refill MGK® 31021 /Product Name with [Quick Pump/Applicator Name] [applicator]:

	Remove the pump handle on the Quick Pump/Applicator Name by twisting it counterclockwise. [Illustration]
	Remove the cap from the MGK® 31021 / Product Name bottle/container. [Illustration]
	Pour the product carefully and directly into the Quick Pump/Applicator Name container. Do Not fill above 2"/3"/4" from the top of the container. DO NOT add water. [Illustration]
	Secure the pump handle back on the container by twisting it clockwise until tight. [Illustration}

STORAGE & DISPOSAL

Do not contaminate water, food, or feed by storage and disposal.
PESTICIDE STORAGE: Protect from freezing. Always store this pesticide product in the original container. Store in a cool, dry (preferably locked) place that is inaccessible to children and animals, and in a safe area away from food and pet food.
PESTICIDE DISPOSAL AND/& CONTAINER HANDLING: Do not reuse or refill this container unless the directions for use allow refill according to the instructions contained in the Refill Directions.
If empty: Place in trash or offer for recycling if available.
If partly filled: Call your local solid waste agency for disposal instructions. Never place unused product down any indoor or outdoor drain.

End of Options 6 and 7

Optional Trouble Shooting Section for [Battery Powered Wand] [Comfort Wand] [Comfort Shot Wand] [Pump 'N Go] [EZ Sprayer] [Applicator name]

Troubleshooting Tips:
Problem: Sprayer does not spray [function].
Possible Cause: Batteries not installed properly.
Solution: See instructions for correct battery placement.
Problem: Sprayer makes a straining noise [Sprayer runs but nothing [no product] comes out].
Possible Cause: Nozzle is turned Off.
Solution: Turn nozzle to (desired) spray setting [position].
Possible Cause: [Red] [color] plug at end of hose is not flipped up.
Solution: Insert [color of plug] plug at end of hose into [color of spout] spout on cap [until it clicks and flip up spout.]
Possible Cause: Sprayer is not primed.
Solution: Press and hold button on sprayer for about [X] (*10/ 15/ 20/ 30*) seconds to prime the sprayer.

DISCLAIMER, RISKS OF USING THIS PRODUCT, LIMITED WARRANTY AND LIMITATION OF LIABILITY

IMPORTANT: Read the entire Label including this Disclaimer, Risks of Using this Product, Limited Warranty, and Limitation of Liability before using this product. If the terms are not acceptable THEN DO NOT USE THE PRODUCT.

RISKS OF USING THIS PRODUCT The Buyer and User (referred to collectively herein as "Buyer") of this product should be aware that there are inherent unintended risks associated with the use of this product which are impossible to eliminate. These risks include, but are not limited to lack of control of the target pests, resistance of the target pest to this product, injury caused by drift. Such risks of non-performance, resistance or other unintended consequences are unavoidable and may result because of such factors as presence of other materials either applied in the tank mix with this product or prior to application of this product, cultural practices or the manner of use or application, (or a combination of such factors) all of which are factors beyond the control of MGK. The Buyer should be aware that these inherent unintended risks may impact the effectiveness of this product. If the Buyer chooses not to accept these risks, THEN THIS PRODUCT SHOULD NOT BE APPLIED. By applying this product Buyer acknowledges and accepts these inherent unintended risks AND TO THE FULLEST EXTENT ALLOWED BY LAW, AGREES THAT ALL SUCH RISKS ASSOCIATED WITH THE APPLICATION AND USE ARE ASSUMED BY THE BUYER. MGK shall not be responsible for losses or damages (including, but not limited to incidental, consequential or special damages that may be claimed) resulting from use of this product in any manner not set forth on the label. Buyer assumes all risks associated with the use of this product in any manner or under conditions not specifically directed or approved on the label.

LIMITED WARRANTY warrants only that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the label, under average use conditions, when used strictly in accordance with the label and subject to the Risks of Using This Product as described above. To the extent consistent with applicable law AND AS SET FORTH ABOVE, MGK MAKES NO OTHER WARRANTIES, EITHER EXPRESSED OR IMPLIED. No agent or representative of MGK or Seller is authorized to make or create any other express or implied warranty.

LIMITATION OF LIABILITY To the fullest extent allowed by law, MGK or Seller is not liable for any incidental, consequential, indirect or special damages resulting from the use or handling of this product. The limitation includes, but is not limited to increased finance charges or altered finance ratings, emotional or mental distress and/or exemplary damages. TO THE FULLEST EXTENT ALLOWED BY LAW, THE EXCLUSIVE REMEDY OF THE BUYER, AND THE EXCLUSIVE MAXIMUM LIABILITY OF MGK OR SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT SHALL BE THE RETURN OF THE PURCHASE PRICE OF THIS PRODUCT OR, AT THE ELECTION OF MGK OR SELLER, THE REPLACEMENT OF THE PRODUCT.

PROMPT NOTICE OF CLAIM To the extent consistent with applicable law allowing such requirements MGK must be provided Product Name/Label Number/Page # notice as soon as Buyer has reason to believe it may have a claim, but in no event later than twenty-one days from date of application, so that an immediate inspection of the affected property can be made. To the extent consistent with applicable law if Buyer does not notify MGK of any claims, in such period, it shall be barred from obtaining any remedy.

NO AMENDMENTS MGK and Seller offer this product, and Buyer accepts it, subject to the foregoing Disclaimer, Risks of Using This Product, Limited Warranty and Limitation of Liability, which may not be modified by any oral or written agreement.

[Or alternate text]

[IMPORTANT: READ BEFORE USE

Read the entire Directions for Use, Conditions, Disclaimer of Warranties and Limitations of Liability before using this product. If terms are not acceptable, return the unopened product container at once.

By using this product, user or buyer accepts the following conditions, disclaimer of warranties and limitations of liability.

CONDITIONS: The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of MGK. All such risks shall be assumed by the user or buyer.

DISCLAIMER OF WARRANTIES: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MGK MAKES NO OTHER WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, THAT EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of MGK is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, MGK disclaims any liability whatsoever for special, incidental or consequential damages resulting from the use or handling of this product.

LIMITATIONS OF LIABILITY: TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT MGK'S ELECTION, THE REPLACEMENT OF PRODUCT.]

[Or alternate text]

[Note [Notice]: Seller warrants that this product complies with the specifications expressed in this label. To the extent consistent with applicable law, seller makes no other warranties, and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for the intended purpose. To the extent consistent with applicable law, seller's liability or default, breach or failure under this label shall be limited to the amount of the purchase price. To the extent consistent with applicable law, seller shall have no liability for consequential damages.]

[Or alternate text]

[Notice: To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions.]

[Or alternate text]

[NOTICE TO USER

To the fullest extent permitted by law, seller makes no warranty, express or implied, of merchantability, fitness or otherwise concerning the use of this product other than as indicated on the label. User assumes all risks of use, storage or handling not in strict accordance with accompanying directions.]

OPTIONAL MARKETING CLAIMS:

Note to PM: When qualified claims are used on the market label, the qualifying statement will appear in close proximity to the claim when it does not impact any mandatory language.

Kill Claims

- ~~*Kills on Contact*~~
- *Kills Asian Lady [bird] Beetles*
- *Kills Asian Lady bugs by contact*
- ~~*Kills Fleas*~~
- ~~*Kills Fleas & Ticks*~~
- *Kills Spiders,* ~~*Centipedes and Scorpions*~~
- *Kills Roaches/Cockroaches/Palmetto Bugs,* *Ants* *and* ~~*Fleas on Contact*~~
- *Kills Aphids, Mealy Bugs, Lace Bugs, Thrips, Leafminers and Mites*
- *Kills Spider Mites*
- *Kills Japanese Beetles*
- ~~*Kills Mosquitoes*~~
- ~~*Kills hidden bugs*~~
- *Plus Kills* *Ants,* ~~*Fleas, Ticks*~~*, Crickets, Spiders,* *Flies* *& Other Listed Pests*
- *Kills a wide range of* *Crawling, Flying and Wood* *Infesting Pests*
- *Also Controls:* ~~*Carpenter Ants &*~~ *Carpenter Bees*
- ~~*Controls Ticks that may Transmit Lyme disease*~~

Speed Claims

- ~~*Kills Fast*~~
- ~~Direct contact provides control in only 5 minutes as shown in / by independent testing~~
- ~~Fast / Quick Knockdown and Kill~~
- ~~Fast Acting~~
- ~~Contains a fast-acting knockdown agent/ingredient [for faster results]~~
- Dual Action
- ~~Double Barreled~~
- ~~Fast acting and long lasting~~
- ~~[Now with] quick knockdown ingredient [added] [for faster results]~~
- ~~Contains quick knockdown agent~~
- ~~Kills German cockroaches in under/[less than] 5 minutes~~
- ~~Kills large [carpenter] ants in under/[less than] 5 minutes~~
- Kills house flies in under/[less than] 2 minutes
- ~~Visible results in under/[less than] a minute/[60 seconds]*~~
- ~~Visible results on German cockroaches/house flies/asian lady beetles in under/[less than] a minute/[60 seconds]~~
- ~~Visible results on Black Widow spiders in first/under/[less than] 2 minutes~~
- ~~See/Get results in first/under/[less than] a minute/[60 seconds]*~~
- ~~See/Get results on German cockroaches/house flies/asian lady beetles in under/[less than] a minute/[60 seconds]*~~
- ~~Starts working/killing in first/under/[less than] a minute/[60 seconds]*~~
- ~~Starts killing German cockroaches/house flies/asian lady beetles in under/[less than] a minute/[60 seconds]*~~
- ~~Starts killing Black Widow spiders in first/under/[less than] 2 minutes*~~

~~***** KD[20] when used as directed on German cockroaches/house flies/asian lady beetles/Black Widow spiders~~

Residual Claims

- *Long-Lasting*
- *Keeps Killing Lady Beetles for up to 35 Days*
- *Keeps on Killing [German & American] Cockroaches and Argentine Ants for Up to 12 Months [1 year]**
- *Protects Against [German & American] Cockroaches and Argentine Ants for Up to 12 Months [1 year]**
- ~~*Keeps on Killing for Up to 12 Months [1 year]***~~
- *Keeps Killing German Cockroaches for Up to 3 Months [12 Weeks]*
- ~~*Keeps Killing Houseflies for Up to 5 Months [20 Weeks]*~~
- ~~*Keeps Killing Carpenter Ants for Up to 4 Weeks [30 Days, 1 Month]* [When Applied to Non-Porous Surfaces]*~~
- ~~*Keeps Killing Stable Flies for Up to 4 Months [18 Weeks]*~~
- Long lasting cockroach/~~flea~~ control
- ~~Residual Control / Kill for up to 4 weeks or 30 days or 1 month begins working within minutes of exposure or application~~
- ~~Can help Guard/prevents against cockroach infestation and re-infestation for up to [6/9/12 months]*~~

** on non-porous surfaces*
***German & American Cockroaches & Argentine Ants on non-porous surfaces*

General Claims

- For use in Residential/Commercial Buildings
- ~~Use as part of your existing bed bug control program~~
- Dual Purpose Spray

- [Use as] Barrier Spray/[Direct] Contact Spray
- Non-staining
- No visible/oily residue
- Low odor
- ~~Non-Repellent~~
- [Unique] water-based [formula]
- Easy-to-Use [Trigger/Automated] Spray
- For Residential/Commercial Use [Only]
- [No Ozone Depleting Propellants]
- *For Indoor and Outdoor Use*
- *Ready-To-Use*
- *Water-Based*
- *100% Satisfaction Guaranteed*
- *This product ~~kills on contact~~, is non-staining, leaves no oily residue, ~~is long-lasting and gives you immediate results when spraying insects directly.~~*
- *[Now] XX % More [*]*

** versus XX [fl. oz.] [gallon] size]*

END OPTIONAL MARKETING CLAIMS